



**POSITION:** Informatics/Complex Systems Researcher

**JOB ID:** 62042

**MANAGER:** Heidi Ammerlahn

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### DEPARTMENT DESCRIPTION

The Informatics and Decision Sciences department at Sandia National Laboratories in Livermore, California develops new algorithms, theory, and software in machine learning, matrix and tensor methods, information retrieval, data mining, complex systems modeling and analysis, and related areas. We deal with large-scale, complex, real-world problems that require innovative, but realistic solutions, often using advanced hardware platforms. The work of the department impacts a wide variety of applications in national security, engineering, computational biology, systems studies, and other areas.

### JOB DESCRIPTION

We have multiple openings in computer science and applied mathematics for full-time researchers at the junior and senior levels. We are particularly looking for experts in informatics and data mining, numerical algorithms for simulations, and/or computational mathematics for complex systems. Our staff members are expected to conduct innovative research, publish and present results in refereed journals and conferences, develop open-source software, and seek out new and interesting problems of national importance.

### QUALIFICATIONS

An advanced degree (PhD or equivalent) in computer science, mathematics, statistics, or a related area is required for this position, as is a strong record of academic performance (3.5 GPA or higher). Candidates must be able to work in a collaborative research environment and must provide evidence of relevant research expertise in the form of technical publications, presentations, software, and/or knowledge of applications. Other required qualifications include software development competence in C++, Java, MATLAB, or a related language; proficiency in solving problems, prioritizing work, and making decisions; and excellent written- and oral-communication skills.

Expertise in one or more of the following areas is desired for this position: scientific computing, graph analysis, linear algebra, machine learning, game theory, statistics, numerical analysis, optimization, computational combinatorics, data mining, mathematical physics of complex systems, information theory, decision theory, data fusion, and systems modeling. Other desired qualifications include a background in solving practical problems in science and engineering; encounters with real-world data; and proficiency in software engineering, especially an understanding of object-oriented programming techniques and best practices, high-performance computing experience, and/or SQL database knowledge. Additional desired qualifications for senior-level candidates include (1) a familiarity with the processes for obtaining and managing research funding, such as building project teams, writing grants and progress reports, and working with sponsors, and (2) evidence of professional service to the community, such as service on program committees, workshop organizations, and/or editorial work.

***Candidate must be able to obtain a U.S. Department of Energy security clearance for this position. To obtain a security clearance, U.S. citizenship is required.***

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